

## **REMARKS**

Claims 1-22 and 30-36 are pending in the present application. The Examiner has rejected claims 1-22, 30 and 34-36 and failed to reject claims 31-33 in view of the prior art. Applicants respectfully submit that the discussion on page 7 of the Office Action with respect to claim 33 is a typographical error and should be corrected to indicate a discussion with respect to claim 30.

### **I. OBJECTION WITH RESPECT TO THE DRAWINGS**

The Examiner has objected to the set of drawings filed on October 27, 2000 as indicated in the Office Action Summary. Applicants assume that the Examiner is requesting a set of formal drawings, although the Office Action is silent as to this point. Therefore, Applicants respectfully submit a formal set of drawings. It is therefore respectfully requested that the objection be withdrawn with respect to the drawings.

### **II. REJECTION UNDER 35 U.S.C. § 103(a) WITH RESPECT TO CLAIMS 1-22 AND 33-36**

Claims 1-22, 30 and 34-36 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,890,051 ("Schlang") in view of U.S. Patent No. 5,341,110 ("Nardi"). Applicants respectfully traverse the rejection.

In the Office Action, with respect to each pending independent claim (i.e., claims 1, 9, 16 and 30), the Examiner states that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Nardi to the system of Schlang in order to realize a phase locking oscillator circuit having a loop bandwidth broader than that of existing oscillator circuits." Applicants respectfully disagree. Schlang teaches a mobile phone transceiver architecture. On the other hand, Nardi teaches a yttrium-iron-garnet-based (YIG-based) phase-locking oscillator circuit.

YIG resonators require a significant amount of power, generate excessive heat that may harm other transceiver components and require an environment that is free from vibration and electromagnetic interference (EMI). The mobile phones taught by Schlang cannot accommodate a YIG resonator. In particular, mobile phones are sensitive to components consuming significant amounts of power and generating an excessive amount of heat. Furthermore, YIG resonators can be easily destabilized by the movements which are common place with respect to a *mobile* phone

as well as movements caused by the environment (e.g., wind). Furthermore, once the YIG-based phase-locking oscillator circuit is destabilized, it is slow to react and to re-establish phase lock. Support for these and other assertions can be found in the enclosed article, which is not prior art, entitled "Design A Low-Noise Synthesizer Using YRO Technology" by Eliot Fenton et al. Furthermore, the YIG-based phase-locking oscillator circuit taught by Nardi would suffer from the EMI as set forth in Schlang caused by the radio frequency signals distributed along traces on the printed circuit board. See, e.g., Schlang at col. 7, lines 23-31 and lines 62-65. It is well known that YIG resonators operate in a constant magnetic field whose strength determines the frequency of the YIG resonators. A mobile phone with its varying radio frequency signals resonating on the traces of the printed circuit board and on its antenna would generate significant EMI that would destabilize the YIG resonator. Accordingly, Schlang and Nardi teach away from each other and thus teach away from their combination.

In fact, the combination of Schlang and Nardi would render Nardi unsatisfactory for its intended purpose as a low noise reference oscillator. Furthermore, the combination of Schlang and Nardi would render Schlang unsatisfactory for its intended purpose as a mobile phone since the Nardi oscillator circuit would be inoperable in such an environment. Thus, according to M.P.E.P. § 2143.01, there is no motivation or suggestion for combining the teachings of Schlang and Nardi. See, e.g., the section entitled "The Proposed Modification Cannot Render the Prior Art Unsatisfactory for Its Intended Purpose" of M.P.E.P. § 2143.01.

Since the combination of Schlang and Nardi cannot be maintained for at least the above-recited reasons, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be withdrawn with respect to claims 1-22, 30 and 34-36.

### **III. PRIMA FACIE OBVIOUSNESS**

Applicants respectfully request that the next Office Action, if necessary, more clearly demonstrate a *prima facie* case of obviousness. M.P.E.P. § 2142 states that

[t]he examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness.

In particular, Applicants respectfully request that the next Office Action discuss each and every element as set forth by the claims. For example, the Examiner rejected claims 1 and 4-8 merely

on a discussion of some of the elements as set forth in claim 1. Claims 4-8 recite elements such as, for example, "a harmonic of the second signal", "a limiter" and "a charge pump" as well as other elements (e.g., elements related to the above-recited elements). These elements must be considered and discussed in view of documents cited by the Examiner. Applicants further draw the attention of the Examiner to claims 11-15, which were rejected by merely discussing some of the elements as set forth in claim 9, and to claims 20-22, which were rejected by merely discussing some of the elements as set forth in claim 16.

#### IV. CLAIMS 31-33

Claims 31-33 are pending in the present application. Since the Examiner failed to examine claims 31-33 in view of any of the cited documents, Applicants assume that this is an admission of the patentable subject matter recited therein. It is therefore respectfully requested that claims 31-33 be allowed.


#### V. CONCLUSION

In view of at least the foregoing, it is respectfully submitted that the pending claims 1-22 and 30-36 are in condition for allowance. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the below-listed telephone number.

Please charge any required fees not paid herewith or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Dated: December 1, 2003

Respectfully submitted,

  
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